IN THE CLAIMS:

1. (currently amended) A brain computer interface (BCI) comprising:

an electrocorticography (ECoG) electrode array implanted beneath the scalp of a user configured for acquiring electrocorticography (ECoG) signals of the subject;

an acquisition computer coupled to the electrode array for collecting and storing the ECoG signals; and,

coupled to the acquisition computer, a BCI computer having software configured to analyze the ECoG signals to determine an intent of the user.

2. (original) A BCI according to claim 1 further comprising an output device communicatively coupled to the BCI computer, the BCI computer further configured to generate a device command from the intent of the user.

3. (original) A BCI according to claim 1 wherein said electrode array provides signals of mu, beta and gamma rhythms of the user.

4. (original) A BCI according to claim 1 wherein said electrode array provides signals having a significant frequency content (power) of greater than about 40 Hz.

5. (currently amended) A brain computer interface (BCI) comprising acquisition hardware for acquiring an electrocorticography (ECoG) signal communicatively coupled to a BCI computer configured to analyze the ECoG signal to determine an intent of a user.

6. (original) A BCI according to claim 5 further comprising an output device communicatively coupled to the BCI computer, the BCI computer further configured to generate a device command from the intent of the user, to control the output device.

7. (currently amended) A method for providing control of an output device by a user comprising:

providing an electrocorticography (ECoG)[-]based brain computer interface (BCI) to the user , the ECoG-based BCI configured for determining an intent of the user from ECoG signals of the user's brain activity; and

communicating the intent of the user to the output device.

8. (original) A method according to claim 7 comprising:

monitoring brain activity of the user;

collecting ECoG signals of the user's brain activity ;

computer processing the ECoG signals to determine the intent of the user with respect to the output device;

generating from the intent of the user a device command to the output device;

communicating the device command to the output device.

9. (original) A method according to claim 8 further comprising:

monitoring a position of the output device; and

providing feedback to the user on the position of the output device with respect to a target position.

10. (original) A method according to claim 8 wherein monitoring the brain activity of the user comprises monitoring mu, beta and gamma rhythms of the user.

11. (original) A method according to claim 8 wherein collecting ECoG signals of user's brain activity comprises collecting ECoG signals having a significant frequency content (power) of more than about 40 Hz.

12. (currently amended) A method of controlling movement of a cursor on a computer monitor in real time comprising:

monitoring electrocorticography (ECoG) signals of the brain activity of a subject;

analyzing the ECoG signals to determine the intent of the user with respect to the cursor movement;

comparing the intent of the user to a current position of the cursor;

generating from the intent of the user a device command to the computer monitor to move the cursor;

providing feedback to the user on the current position of the cursor;

reanalyzing the ECoG signal to determine an intended correction by the user with respect to the cursor movement;

communicating the intended correction by the user to the computer monitor to modify movement of the cursor.

13. (original) The method in accordance with claim 12, wherein analyzing the ECoG signal comprises analyzing the ECoG to determine the intent of the user with

respect to the cursor movement in at least two dimensions, and communicating the intent of the user to the display to move the cursor comprises moving the cursor in at least two dimensions.